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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/622,301	10/25/2000	Friedrich Guethlhuber	BAUER214-KFM	4614

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EXAMINER

DOROSHENK, ALEXA A

ART UNIT PAPER NUMBER

1764

DATE MAILED: 10/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/622,301

Applicant(s)

GUETLHUBER, FRIEDRICH

Examiner

Alexa A. Doroshenk

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The new drawing pages comprising Figures 6, 7 8a and 8b were received on July 26, 2004. These drawings are acceptable.
2. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the proposed correction to Figure 5 is approved and a clean copy is required (without the changes circled). Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
4. Claims 21-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant's new claim 21, while similar to original claim 1 (now cancelled), is different in that it recites "the tube bundle consisting of single piece tubes". The examiner has neither found support by way of a description

of the tubes in the specification nor in the drawings (applicant states in the specification that the figures are schematic).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 21 and 24-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamaguchi et al. (5,048,601).

With respect to claim 21, Yamaguchi et al. discloses a reactor comprising:

a heat carrier (1B) circulating around a contact bundle (2) inside a reactor jacket (1), each tube consisting of a single piece (see figure 1) extending from and sealed to a first tube plate (3) at an inlet side and a second tube plate (lower plate not numbered in figure 1) at an outlet side, and the plates being sealed to the reactor jacket (col. 4, lines 33-63);

gas inlet and outlet hoods (not numbered) spanning the face sides of the tube plates (3) (see figure 1);

heat insulation zone (4) on the heat carrier (1B) side of the first tube plate (3) with a solid, liquid or gaseous heat insulation material (col. 3, lines 9-26).

With respect to claim 24, it can be seen in figures 1 and 2 that the insulation zone 4 is limited to tube-free areas of the first tube plate (3).

With respect to claim 25, Yamaguchi et al. discloses wherein insulation chamber (4/6) is formed which prevents material from circulating by tube structures in the chamber (col. 3, lines 15-23).

With respect to claims 26 and 27, Yamaguchi et al. discloses wherein insulation chamber (4/6) is formed which has a cooling medium circulated through which is also used as the heat carrier (col. 3, lines 14-16). It is noted that operational conditions or method steps are claimed which are not given weight in an apparatus claim since an apparatus claim covers only what a device is, not what a device does. MPEP 2114

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claims 21, 24, 26 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Jewett (2,986,454).

With respect to claim 21, Jewett discloses a tubular reactor (1) comprising:
a heat carrier (via 11 and 12) circulating around a contact tube bundle (8/23) inside a reactor jacket (2), the tube bundle (8/23) extending between a tube plate (20) at the gas inlet side (17) and a tube plate (4) at the reaction gas outlet side (19) and sealed to it (col. 2, lines 10-12, 31-35, 53-56 and col. 3, line 4);

with gas inlet (15) and gas outlet (16) hoods spanning the face sides of the two tube plates;

with a heat insulation zone (24) that borders on the heat carrier side on the tube plate (20) at the gas inlet side (17);

wherein the two tube plates are anchored in an essentially known manner at their edges to the reactor jacket in a sealed manner (col. 2, lines 10-12, 31-35, 53-56 and col. 3, line 4); and

wherein the heat insulation zone (24) comprises a chamber containing a gaseous heat insulation material (air, col. 3, lines 11-14).

While Jewett discloses that the tubes of the tube bundle are comprised of an isolating tube (23) as well as a catalyst tube (8), not a single tube extending between tube sheets 20 and 4 as claimed in the instant invention, Jewett does disclose that the pieces are connected in a "gas-tight arrangement" (col. 2, lines 53-56). As such, it is held that while the tubes are comprised of several parts, they are secured together as a single unit and it would have been obvious to one of ordinary skill in the art at the time the invention was made that the use of a one piece construction instead of the two piece construction of Jewett in order to ensure Jewett's required "gas-tight arrangement". In re Larson, 144 USPQ 347 (CCPA 1965).

With respect to claim 24, the heat insulation zone (24) is limited to partial tube-free areas of the gas inlet side tube plate (20) in that the insulating material (air) can only traverse the areas of the chamber that do not have tubes blocking the flow path.

With respect to claims 26 and 27, Jewett discloses wherein the heat insulation zone (24) is a chamber (see figure 1) and the remainder of claim 26 as well as claim 27 recite only operational conditions or method steps are claimed which are not given

weight in an apparatus claim since an apparatus claim covers only what a device is, not what a device does. MPEP 2114. Even so, it is noted that the gaseous heat insulation material (air) is circulated through the chamber as a cooling medium (see figure's "cool air" inlet indication).

10. Claims 22, 23, 25 and 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jewett (2,986,454), as applied to claim 21 above, and further in view of Gottzmann et al. (5,820,655).

With respect to claims 22, 23 and 28, Jewett discloses the reactor as discussed above, but fails to disclose any inserts into his insulation zone (24).

Gottzmann et al. also discloses a tubular reactor and teaches wherein providing "variable area inserts, spiral (reads on concentric ring) inserts, or an insulating insert of variable thickness" can be used to control the local heat transfer coefficients and therefore control the insulation temperature (col. 11, lines 43-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide either variable inserts, spiral inserts or inserts of variable thickness in the insulation zone (24) of Jewett in order to achieve greater temperature control as taught by Gottzmann et al.

With respect to claim 25, the addition of the structures taught by Gottzmann et al. into the chamber (24) of Jewett (as discussed above) would result in the gaseous material (air) from circulating by structures (such as the reaction tubes 8/23) installed in the chamber (24).

With respect to claims 29 and 30, any components inside chamber (24) would be covered on the side opposite of the gas inlet tube plate (20) by tube plate (3).

With respect to claim 31, the heat insulation zone (24) is limited to the edge area of the gas inlet side tube plate (20) in that it is on the flat planar edge of the plate.

11. Claims 22, 23 and 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al. (5,048,601), as applied to claim 21 above, and further in view of Gottzmann et al. (5,820,655).

With respect to claims 22, 23 and 28, Yamaguchi discloses the reactor as discussed above, but fails to disclose any inserts into the insulation zone (4/6).

Gottzmann et al. also discloses a tubular reactor and teaches wherein providing "variable area inserts, spiral (reads on concentric ring) inserts, or an insulating insert of variable thickness" can be used to control the local heat transfer coefficients and therefore control the insulation temperature (col. 11, lines 43-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide either variable inserts, spiral inserts or inserts of variable thickness in the insulation zone (4/6) of Yamaguchi et al. in order to achieve greater temperature control as taught by Gottzmann et al.

With respect to claims 29 and 30, any components inside chamber (4/6) would be covered/sealed on the side opposite of the gas inlet tube plate (3) by an insulation plate (4).

With respect to claim 31, the heat insulation zone (4/6) is limited to the edge area of the gas inlet side tube plate (3) in that it is on the flat planar edge of the plate.

Response to Arguments

Specification

The objection to the specification is withdrawn after clarification by the applicant as to identifying the specification over the translation of the Patent Publication No. WO99/42208 in the application.

Drawings

The objections to the drawings are withdrawn.

Claim Objections

The objection to the claims is now moot as applicant has cancelled the original claims and submitted new claims.

35 USC 112

The rejections under 35 USC 112 first and second paragraph of claims 20 and 14 are now moot as both of these claims have been cancelled, and as applicant has indicated in the specification where the support for claim 20 is on page 7.

35 USC 102

Applicant argues that new claim 21 does not read on Jewett because the tubes of the tube bundle are not of a single piece. The examiner agrees, but notes that this limitation is newly added and has provided a rejection under 35 USC 103 above.

35 USC 103

In response to applicant's argument that Gottzmann et al. is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's

endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both Gottzmann et al. and Jewett (as well as the newly applied Yamaguchi et al.) are directed to temperature circulating around reaction tubes.

In response to applicant's argument that combining the reactors of Gottzmann et al. and Jewett would not result in the reactor as claimed, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

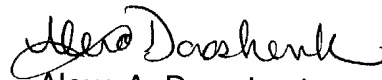
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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexa A. Doroshenk whose telephone number is 571-272-1446. The examiner can normally be reached on Monday - Thursday from 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alexa A. Doroshenk

Examiner

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